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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,511	05/10/2001	Thomas J. Johnson	S1381/7030	6388
23628	7590	07/30/2004	EXAMINER	
WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2211			GELIN, JEAN ALLAND	
			ART UNIT	PAPER NUMBER
			2681	6

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/852,511	JOHNSON ET AL.
Examiner	Art Unit	
Jean A Gelin	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 10 May 2001.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-98 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-98 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 9/10/01 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### *Drawings*

1. Figures 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 24, 40, 41, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langston (US 6,112,056) in view of Schaeffer (US 5,073,971).

Regarding claims 1, 40, Langston teaches a wireless communication system (fig. 1), comprising: at least one first sectored cell (11) having a first plurality of sectors (31, 32, 33, 34), the at least one first sectored cell using a first plurality of channels and a first channel sequence for successive adjacent sectors proceeding in a clockwise direction around the at least one first sectored cell (col. 2, line 35 to col. 3, line 36); and at least one second sectored cell (12) contiguous with the at least one first sectored cell (11), the at least one second sectored cell (12) having a second plurality of sectors and using to the same first plurality of channels (31, 32, 33, 34), the at least one second

sectored cell (12) using a second channel sequence for successive adjacent sectors proceeding in a clockwise direction around the at least one second sectored cell (i.e., antenna in the cell transmit and receive at different angle, different polarized signals, col. 3, line 1 to col. 4, line 38).

Langston does not specifically teach wherein the second channel sequence and the first channel sequence are different.

However, the preceding limitation is known in the art of communications. Schaeffer teaches antennas are centrally located and radiate into a 60 degrees area cell wherein each antenna in the cell has a group of frequencies assigned to it that is different than the group of frequencies to the other antenna (abstr.) therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to implement the technique of Schaeffer within the system of Langston in order to provide different communications channel to each antenna of the plurality of antennas within the cell.

Regarding claims 2, 41, Langston in view of Schaeffer teaches all the limitation above. Schaeffer further teaches wherein the first plurality of channels includes at least two channels having at least one of different polarizations, different time slots, and different codes (abstr.).

Regarding to claims 24 and 60, the system of Langston include a plurality of nodes such as 11 through 13 to cover a small city but hundred of such nodes can cover a large city. Therefore, claims 24 and 60 are interpreted and rejected for the same reasons as recited in claim 1 above.

***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-98 are rejected under the judicially created doctrine of double patenting over claims 1-70 of U. S. Patent No. 6,748,218 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: A wireless communication system, comprising: at least seven sectored cells, each sectored cell of the at least seven sectored cells being divided into a plurality of sectors and being assigned at least three different channels such that adjacent sectors in each sectored cell use different channels, each sectored cell of the at least seven sectored cells having a different one of at least seven different cell configurations, each cell configuration of the at least seven different cell configurations being uniquely identified by at least one of a particular azimuth orientation of the cell about the center of the cell.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

***Allowable Subject Matter***

6. Claims 23, 34-39, 59, and 61-98 are allowed.
7. Claims 3-22, 42-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: the prior art teaches at least a first sectored cell having at least four sectors and a second sectored cell having at least four sectors and radiate signals at different angle within each sectored cell includes a base station having a plurality of antenna to receive and transmit signals in different directions.

As per claims 3-22, 25-33, and 41-58 on the other hand, the Applicant teaches, *inter alia*, the at least three sectored cells are arranged with respect to each other such that sectors of the at least three sectored cells that are similarly oriented approximately along one bore axis of the at least three bore axes and in which radiation is transmitted in essentially a same direction approximately along the one bore axis use different channels. This limitation, in conjunction with all limitations as recited in the independent and dependent claims, have not been disclosed, taught, or made obvious over the prior art of record.

Regarding claims 25-33, 61-98, the Applicant teaches wherein each cell configuration of the at least seven different cell configurations is uniquely identified by at least one of a particular azimuth orientation of a cell about the center of the cell and a particular channel sequence for successive adjacent sectors proceeding in a clockwise direction around the cell. This limitation, in conjunction with all limitations as recited in the independent and dependent claims, have not been disclosed, taught, or made obvious over the prior art of record.

As per claims 34-39, the Applicant teaches at least three mutually adjacent sectored cells having up to  $K$  different cell configurations,  $K$  being an integer not less than three, each cell configuration of the  $K$  different cell configurations including a sectored cell having  $S$  sectors,  $S$  being an integer, each sectored cell using a same set of  $C$  different channels to transport information,  $C$  being an integer not exceeding  $S$ , wherein adjacent sectors in each cell do not use same channels of the  $C$  different channels, at least two different cell configurations of the  $K$  different cell configurations each being uniquely identified by a particular channel sequence for successive adjacent sectors proceeding in a clockwise direction around a cell. This limitation, in conjunction with all limitations as recited in the independent and dependent claims, have not been disclosed, taught, or made obvious over the prior art of record.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kasturia (US 6,388,998) teaches reuse of codes and spectrum in a CDMA system with multiple sector cells.

Thomas et al. (US 6,212,385) teaches cellular communication system and reuse pattern therefore.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A Gelin whose telephone number is (703) 305-4847. The examiner can normally be reached on 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JEAN GELIN  
PRIMARY EXAMINER**

JGelin  
July 22, 2004

*jean Alland Gelin*